

THE IMPORTANCE OF POSTEVENT INSIDER TRADING:
EVIDENCE FROM EARNINGS ANNOUNCEMENTS

By

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This dissertation is dedicated to the memory of my maternal grandfather, Wynn E. Walker, whose wisdom and love of finance are the driving force behind these endeavors.

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This dissertation examines the importance of insider trading subsequent to earnings announcements. Although the extant literature on insider trading has focused on how insiders behave prior to various corporate announcements, little research has been devoted to examining the extent to which insiders trade after these announcements. This dissertation fills that gap.

I find evidence consistent with insiders viewing postevent trading as an important option. Specifically, insiders trade more frequently and they trade more shares following earnings announcements than at other times. Furthermore, insiders earn significantly larger profits on postevent trades than on other trades.

I also find evidence that post earnings announcement insider trading is correlated with several proxies for earnings information. Specifically, postevent insider trading is decreasing in proxies for earnings information that has recently arrived. Furthermore,

postevent insider trading is increasing in the difference between one quarter ahead earnings and current earnings. Finally, insiders tend to buy more (and sell less) following market underreactions (overreactions) to positive (negative) earnings news.

The observed importance of postevent insider trading can be partially attributed to insiders being less concerned with SEC sanctions on this trading than on preevent trading. In particular, higher expected costs of insider trading (associated with a change in the regulatory climate) led to an increase in postevent insider trading activity relative to preevent insider activity. Insiders further responded to the change in regulatory climate by changing the types of information they trade upon prior to earnings announcements. Specifically, insider buying is more likely to precede negative earnings surprises after the change in regulations, than before. Finally, insiders earn significantly smaller profits on sales transactions consummated after the change in regulations.

My results have implications for the measured incidence and profitability of insider trading. Specifically, studies that focus solely on insider trading prior to corporate news events may be systematically underestimating the incidence and profitability of insider trading.

CHAPTER 1 INTRODUCTION

A number of studies provide evidence that corporate insiders trade on private inside information that will soon be revealed to the market.¹ The common theme underlying the analysis in these studies is that insiders are trading on an information asymmetry that exists prior to the corporate news announcement. These studies do not address the possibility that insiders may use their (assumed) information advantage to trade profitably after the announcement.

Recent evidence on the market's response to earnings announcements suggests that insiders may still possess an information advantage over outsiders after earnings have been reported. In particular, Bamber [1987] documents increased trading activity in a firm's stock immediately after a quarterly earnings announcement.² This increased volume is consistent with a lack of consensus regarding firm value and thus suggests an information asymmetry remains after the earnings report. Furthermore, Bernard and Thomas [1990] find that the market fails to fully incorporate the implications of current

¹For example, Karpoff and Lee [1991] find evidence of insider selling prior to seasoned equity offers; Gosnell, Keown and Pinkerton [1992] document increased insider selling activity in the five months preceding bankruptcy filings; and Lee, Mikkelsen and Partch [1992] show that insiders increase their buying and reduce their selling prior to stock repurchases by tender offer.

²Beaver [1968] provides similar evidence for annual earnings announcements.

earnings for future earnings (i.e. the market underreacts to earnings). Specifically, firms with the biggest favorable (negative) earnings surprises experience significant positive (negative) abnormal returns at the subsequent earnings announcement.³ If insiders understand the implications of current earnings for future earnings (or firm value) better than the market, they can trade on this information for profit after current earnings have been announced.

This paper examines how and why insiders time their trades around earnings announcements. Specifically, I focus on the incidence of insider trading after earnings announcements to highlight the fact that insiders may profit from their information advantage in ways that were previously ignored by the literature. First, insiders may use their private information regarding forthcoming earnings to garner a better price on an expected trade. For example, a planned insider sale will be more profitable following a positive earnings announcement than preceding one. Second, insiders may profit from private information regarding firm value after earnings have been announced. (See evidence from Bamber [1987], Beaver [1968] and Bernard and Thomas [1990].)

I find that insiders are more likely to trade in the 30 calendar days following an earnings announcement than at other times. I also find that insiders trade more (shares) in the 30 calendar days following an earnings release than at other times.⁴ Finally,

³In other words, if the market fully understands current earnings then they (Bernard and Thomas) should be unable to predict future earnings responses based on past earnings figures.

⁴"Other times" are the 30 calendar days preceding an earnings announcement and the 30 calendar day control (benchmark) period between the pre announcement window and last quarter's post announcement window.

insider trading after earnings announcements is significantly more profitable than insider trading at other times. This evidence strongly suggests that insiders view postevent trading as an important option. It also suggests that studies which focus solely on insider trading prior to corporate news announcements may underestimate both the incidence and profitability of (news related) insider trading.

I find that postannouncement insider trading is related to firm specific earnings information. Specifically, insiders tend to buy more and sell less in the post earnings announcement period when one quarter ahead earnings exceed current earnings. They also tend to buy more when the market underreacts (overreacts) to positive (negative) earnings news. Finally, insiders use their private information regarding forthcoming earnings news to time their trades and garner better transaction prices. In particular, insiders increase their selling and decrease their buying after more positive earnings surprises and after larger stock price run-ups that precede earnings announcements.

Given the observed frequency and intensity of information based postevent trading, I address the determinants of the timing of insider trades. In particular, given their clear information advantage prior to earnings announcements, why do insiders choose to trade after them? My evidence suggests that insiders are less concerned with sanctions on postevent trading than on other period trading. Specifically, I examine insider trading around the passage of the *Insider Trading and Securities Fraud Enforcement Act*. Seyhun [1992] finds evidence that insiders responded to the Act by executing fewer preevent informational trades. I find that insiders execute more postevent trades and fewer preevent (and benchmark period) trades than would be expected if the Act had no

impact. I also find that insiders earn significantly larger profits on sales executed prior to this legislation. Finally, I find that insider buying in front of negative earnings surprises is more likely after the passage of this law.

The rest of the paper is organized as follows. Chapter 2 discusses insiders' incentives to trade around corporate earnings announcements. The primary testable implications of this research are derived in this section. Chapter 3 discusses the data and methodology. Chapter 4 presents my results. Chapter 5 concludes.

CHAPTER 2

INSIDERS' INCENTIVES TO TRADE AROUND EARNINGS ANNOUNCEMENTS

For each quarterly earnings announcement (on day 0) I assume there exist three 30 calendar day windows during which insiders can trade: the preannouncement window $[-31,-2]$, the postannouncement window $[1,30]$ or the benchmark period $[-61,-32]$.¹ These three windows are distinguished by the potential information asymmetry that exists between insiders and outsiders. The insider's choice of which window to trade in depends on his information advantage as well as the potential costs of trading in a particular period.

Insiders are assumed to have an information advantage with respect to forthcoming earnings during the preannouncement window.² *Ceteris paribus*, this information advantage will encourage insiders to trade prior to earnings announcements. However, this same information advantage with respect to forthcoming earnings can be used to plan postannouncement trades. In particular, private knowledge of a forthcoming favorable earnings announcement will encourage insiders to postpone planned sales of shares until

¹I argue that the use of three 30 calendar day windows around an earnings announcement is appropriate since my proxy for expected earnings (analysts' forecasts) precede the earnings announcement by approximately 30 calendar days.

²This is consistent with evidence from the extant literature on insider trading (e.g. Karpoff and Lee [1991] and John and Lang [1991]).

after the earnings announcement is made. Thus insiders may benefit from their private information through either preannouncement, benchmark, or postannouncement trading.³

Insiders may further benefit from private information by trading in the postannouncement period on the market's underreaction or overreaction to earnings. In particular, the evidence from Bamber [1987] and Bernard and Thomas [1990] suggests that an exploitable information asymmetry may exist following the most extreme quarterly earnings announcements. This represents an additional mechanism by which insiders may profit from private information in the postannouncement period.

The above suggests that exploitable information asymmetries in existence after earnings announcements provide insiders with additional incentives to trade postevent as opposed to preevent. An implication of this is that more trading will be observed in the postevent period than in the preevent period (and benchmark period). This is the central prediction of *The Differential Trading Hypothesis*.

The above also suggests that postannouncement insider trading will be correlated with proxies for recently released earnings information and/or future earnings. *The Private Information Hypothesis* predicts that insiders will be more intense sellers (buyers) following more favorable (negative) unexpected earnings information releases and after current earnings that, *ex-post*, exceed (are lower than) subsequent earnings. Finally, insiders are expected to be more intense buyers (sellers) following earnings announcements that the market interpreted too negatively (positively).

³Since the benchmark period also precedes the earnings announcement, insiders may be able to trade profitably on private earnings information during this period.

Given the additional incentives insiders have to trade postannouncement (due to information advantages) the question now becomes, what are the potential costs of trading postannouncement versus at other times. I suggest that the potential costs of trading postevent are lower than those associated with trading at other times. In particular, potential SEC sanctions on illegal insider trading represent an important deterrent to trading on inside information. If such sanctions are less likely on trades consummated after corporate news announcements than on other period trades, insiders will have an additional incentive to trade postevent.

The Fear of Sanctions Hypothesis suggests that insiders are indeed less concerned with sanctions on postevent trading than on other period trading. An implication of this hypothesis is that an increase in penalties on illegal insider trading will imply a smaller increase in the expected costs of postevent trading than on other period trading and therefore a shift away from the latter towards the former. The passage of the *Insider Trading and Securities Fraud Enforcement Act* (ITSFEA) increased the penalties on illegal insider trading and thus provides us with a unique opportunity to test this hypothesis. *The Fear of Sanctions Hypothesis* predicts that insiders will increase their postevent trading relative to preevent and benchmark period trading after ITSFEA.

The next section discusses my data and methodology.

CHAPTER 3 DATA AND METHODOLOGY

My basic sample consists of 25,239 quarterly earnings announcements by 3,816 firms over the period January 1984 through March 1991. This sample met the following criteria. 1) The quarterly earnings announcement date is available from PC-Compustat Plus; 2) there exists IBES consensus forecast information for that quarterly earnings figure; and 3) there were no contemporaneous dividend change announcements associated with the earnings announcement.

Earnings forecast data and actual earnings per share figures come from the IBES tapes. The median consensus forecast from the month before the earnings announcement proxies for earnings expectations. O'Brien [1988] finds that this measure dominates time series based forecasts of earnings. Earnings surprise is defined as,

$$\text{Surprise} = (A_t - F_t) / \text{Price}_{t-2\text{days}}, \quad (1)$$

where A_t is the actual earnings figure for quarter t , and F_t is the median IBES forecast for quarter t earnings. I scale the forecast error by the price 2 days prior to the announcement date reported in the Wall Street Journal.¹

¹The issue of whether to scale by the price 30 days prior to the earnings announcement date deserves some discussion. Given that my cross sectional tests control for the net of market return over the 30 days preceding the earnings report, there should be little concern over the use of $\text{Price}_{t-2\text{days}}$.

I also construct a measure of actual earnings growth,

$$\text{Growth} = (A_{t+1} - A_t) / \text{Price}_{t-2\text{days}} \quad (2)$$

where A_{t+1} is the actual earnings figure for quarter $t+1$ and all other variables retain their prior meanings. All returns and price data come from the CRSP and NASDAQ tapes.

3.1 Insider Trading Measures

Insider trading data come from *The Ownership Reporting System* compiled by the Securities and Exchange Commission. I use all open market trades by Officers and Directors of the firm.

Based on the discussion in Chapter 2 I collect insider transactions over three separate 30 calendar day windows: the preevent period $[t-31, t-2]$, the postevent period $[t+1, t+30]$, and the benchmark period $[t-61, t-32]$, where t is the earnings announcement date.² The use of equal sized windows will allow me to compare both the volume and profitability of insider trading across windows.³

I also construct Insider Sale and Purchase Indexes (ISPIs) for use in my cross-sectional tests, consistent with previous studies of insider trading. (See for example John and Lang [1991], Damodaran and Liu [1993] and Seyhun [1990].) The ISPI is designed

²I do not include trading during the days $[-1, 0]$ since this is the announcement window and I don't know whether trades in this window occur before or after the earnings announcement.

³It is important to note that each 30 calendar day window around an earnings announcement contains 22 (transaction) days on which an insider can consummate a transaction. Furthermore, insider trading profits can only be calculated over transaction days. I therefore calculate my measures of insider profitability over transaction days. This calculation is presented in Chapter 3.2.

to capture the preponderance of buying or selling behavior in insiders' transactions. The index is constructed by netting out the number of shares sold by insiders from the number of shares purchased by insiders in the month of interest, and then dividing by the total number of shares transacted in by insiders.

$$\text{ISPI} = \frac{(\text{Number of shares purchased} - \text{Number of shares sold})}{(\text{Number of shares purchased} + \text{Number of shares sold})} \quad (3)$$

The advantage of this measure of insider trading is that it does not suffer from large firm biases that would skew unscaled measures of net buying/selling behavior.

I construct my indices of insider trading using both the number of shares traded and the number of trades executed by insiders.⁴ My index of preevent trading is the ISPI calculated using trades in the preevent window (henceforth known as the earnings month). Similarly, my index of postevent trading is the ISPI calculated over the postevent window [1,30].

Recent studies of insider trading have noted that some level of trading by insiders occurs normally and might therefore be considered "benchmark" trading. (See for example Lee, Mikkelsen and Partch [1992]). I control for the possibility that insiders will tend to be net buyers or sellers on average, by including an index of benchmark trading as a regressor in my cross sectional tests. My benchmark index is the ISPI calculated over the benchmark period.⁵

⁴For brevity, I discuss only the shares based measures here. Trades based measures are constructed in a parallel manner.

⁵To control for possible seasonalities in insider trading (perhaps due to tax timing), the actual benchmark trading index is calculated as the average ISPI over the four benchmark periods preceding the earnings announcement of interest. Specifically, given

3.2 Abnormal Return Calculation Methodology

I use the basic methodology of Mikkelson and Partch [1986] (with one adaptation) to assess the significance of abnormal returns earned on insider trades.⁶ I assess the profitability of insider trading over the two month window surrounding the insider's transaction ([-21,22] in transaction days). If an insider buys shares he profits from a runup in stock price following the purchase. He also benefits from a decline in the stock price prior to the purchase. This implies that individual daily abnormal returns should be calculated as follows:

$$\begin{aligned} AR &= (R_{jt} - R_{mt})W \quad \text{for } t = [-21, -1] \quad \text{where } 0 = \text{transaction date} \\ AR &= (R_{jt} - R_{mt})W \quad \text{for } t = [1, 22] \quad \text{where } 0 = \text{transaction date} \end{aligned} \quad (4)$$

where R_{jt} is the return to stock j on day t , R_{mt} is the contemporaneous market return, and W takes on the value of 1 for purchases, -1 for sales.

Tests of statistical significance are based on standardized abnormal returns (SARs).

$$SAR_{jt} = AR_{jt} / S_{jt} \quad \text{where } (5)$$

a December 31, 1988 earnings announcement, total benchmark trading would be calculated over the months of February, May, August and November of 1988, and then divided by four to get average monthly benchmark trading.

⁶A concern with measuring profitability using market model prediction errors is that estimated alphas may be biased low (high) prior to insider purchases (sales). Seyhun [1986] notes that insiders tend to purchase shares following significant declines in the firm's stock price relative to the market (implying the negative alpha). I construct my measure of insider profitability by simply subtracting the market's return from the observed raw return and cumulating this over the 22 transaction days following the trade.

$$S_{jt} = (V_j^2 [1 + \frac{1}{200} + \frac{(R_{mt} - \bar{R}_m)^2}{\sum_{i=1}^{200} (R_{mi} - \bar{R}_m)^2}])^{1/2} \quad (6)$$

V_j^2 is the variance of firm j 's abnormal returns over the window $[-250, -51]$. The individual daily standardized abnormal returns are assumed to be distributed student's T ; as is the sum of them over 44 days divided by $\sqrt{44}$.

I assess the profitability of preevent and postevent insider trades (separately) by averaging the 44 day standardized profitability measure across all N pre (and separately, post) event transactions, and then multiplying by the square root of N . Since each standardized profitability measure is distributed normal $(0,1)$, the average will be normal $(0,1/N)$ and multiplying by \sqrt{N} will result in a standard normal univariate.

CHAPTER 4 RESULTS

4.1 Differential Trading Results

Table 1 contains descriptive statistics on preannouncement, postannouncement and benchmark insider trading. The percentage of earnings announcements preceded by insider trading is 20%, while the percentage of earnings announcements followed by insider trading is 32%. These percentages are significantly different from each other at the 5% level using a normal approximation to the binomial test. This result is consistent with the argument that insiders are more likely to trade after an earnings announcement than before. I also find that insiders are more likely to trade in the postevent month than in the benchmark month. Of the 25,239 earnings announcements in my sample, 27.6% of them exhibited insider trading in the benchmark month. This percentage is significantly smaller than the percentage of earnings announcements with at least one episode of postevent trading.

I compare the relative intensities (as measured by volume of shares traded, number of trades executed, and number of shares per transaction) of preannouncement, postannouncement and benchmark trading. Table 1 shows that mean (median) pre and postannouncement share volumes are 12,471 (2,000) and 19,232 (3,700), respectively. Chi-square and F-tests reveal that postannouncement insider volume is significantly larger than preannouncement insider volume at the 1% level. Furthermore, the median number

Table 1
Descriptive Statistics for Pre Announcement, Post Announcement and Benchmark Trading

Percent of Sample with Benchmark Trading 27.59%^a
 Percent of Sample with Pre Announcement Trading 19.90%
 Percent of Sample with Post Announcement Trading 32.18%^{a,b}

	Pre Event Trading Month		Post Event Trading Month		Benchmark Trading Month		Pre vs Post Trading		Bench vs Post Trading	
	Mean	Median	Mean	Median	Mean	Median	Diff. in Means	χ^2 Statistic	Diff. in Means	χ^2 Statistic
Vol Trades	2,045	1,00	2,704	2,00	2,331	1,00	154***	126***	58.2***	47.9***
Vol Shares	12471	2000	19232	3700	16451	3000	47.5***	175.2***	8.31***	22.3***
Shares Bought	2973.9	0	2453	0	2463	0	1.54	7.87***	0	29.7***
Shares Sold	9497	900	16868	2000	13988	2000	65.8***	121.5***	10.73***	.646
ISPI (Shares)	-211	-1,00	-300	-1,00	-366	-1,00	27.82***	7.87***	19.25***	29.27***
Vol per Trade	5523	1215	6226	2000	6931	1836	4.06**	120***	2.52	12.4***

Vol Shares = Volume of Insider Trading measured as total number of shares traded during the measurement period.

Vol Trades = Volume of Insider Trading measured as total number of insider trades during the measurement period.

Shares Bought(Sold) = Number of shares bought(sold) during the measurement period.

ISPI (Shares) = Insider Sale and Purchase Index using number of shares transacted in.

Vol per Trade = Average Number of shares involved in each insider transaction that occurred during measurement period.

Significance Levels: ***-1%; **-5%; *-10%

^a - Different from percent of sample with pre trading, with 95% confidence.

^b - Different from percent of sample with benchmark trading, with 95% confidence.

of shares per transaction is higher for postevent trading than for preevent trading ($\chi^2=120$). Finally, postannouncement trading volume (proxied by the number of trades and/or the number of shares traded) is significantly larger than the volume of trading in the benchmark period. The mean (median) number of benchmark trades is 2.33 (1.00) while the mean (median) volume of shares traded in the benchmark period is 16,451 (3000). Chi-square and F-tests indicate that these values are significantly smaller than the corresponding postevent values.

To assess whether this difference between postevent and other period trading volume is due to buying or selling behavior, I compare the distributions of pre, post and benchmark buying volume and the distributions of pre, post and benchmark selling volume. The results in Table 1 indicate that the difference between postevent and other period trading volume can be attributed to a greater tendency to sell after earnings announcements than at other times. The mean (median) preannouncement, postannouncement and benchmark period number of shares sold are 9,497 (900), 16,868 (2000) and 13,988 (2000), respectively. There is no difference between the mean values of preevent, postevent and benchmark buying volume.

Further evidence that selling behavior is driving the difference between pre and postevent insider volume can be found in Figure 1 (see next page). The graph of insider selling volume closely mirrors the graph of total insider volume. Also consistent with the evidence that differences in selling behavior drive the observed differences in insider volume, I find that the mean and median postevent ISPIs are significantly more negative than the corresponding preevent measures.

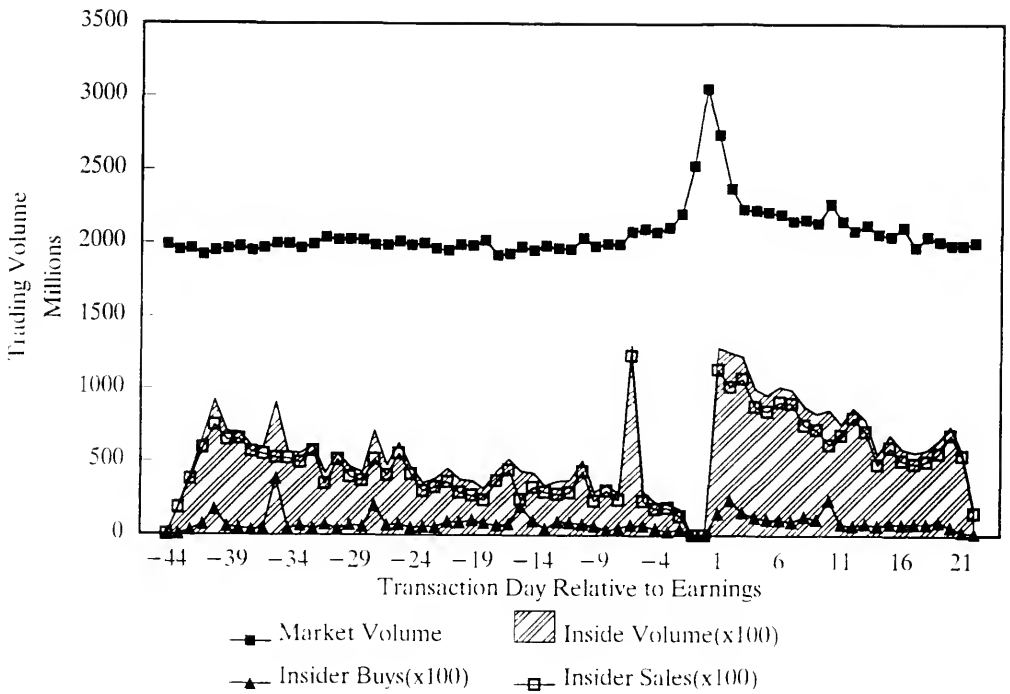


Figure 1

Volume of Insider (x100) and Total Trading
By Transaction Day Relative to Earnings Announcement Date

There is no difference between the mean values of postevent and benchmark period ISPIs.

To summarize, postannouncement trading occurs more frequently and is more intense than preannouncement and benchmark period trading. Although these differences are driven by insider selling, which is more likely to be liquidity trading, I show below that postevent trading is significantly more profitable than other period trading, which is consistent with postevent trading being information based.

4.2 Differential Profit Results

I assess the profitability of pre and postevent insider trading using the methodology outlined in chapter 3.2. Table 2 reports my results. Preevent, postevent and benchmark insider trading are all significantly profitable. This evidence is consistent with prior evidence from the insider trading literature.

The results also indicate that postevent trading is significantly more profitable than other period trading. The mean 44 day net of market returns on pre and postevent trades are 3.1% and 4.0% respectively. Furthermore, the mean 44 day net of market return on postevent trades (4.0%) is significantly larger than the mean 44 day net of market return on benchmark period trades (3.6%). Postevent median profit measures are significantly larger than other period median profit measures. These results are consistent with the notion that postevent insider trading is information based and that it is viewed by insiders as an important option. Table 3 reports the average profitability of insider trades for each transaction day around an earnings announcement. The results indicate that each transaction day shows significant average insider profitability. Figure 2 illustrates how the profits reported in Table 3 are based on buying versus selling behavior.

Table 2
Profitability of Pre Announcement, Post Announcement and Benchmark Trading
Comparisons of Post versus Pre and Post versus Benchmark Profits

	Pre Event Trading Profitability ^a		Post Event Trading Profitability ^b		Benchmark Trading Profitability ^c	Pre vs Post Trading		Bench vs Post Trading	
						Diff. in Means	Diff. in Medians	Diff. in Means	Diff. in Medians
	Mean	Median	Mean	Median	Mean	T-Statistic	χ^2 -Statistic	T-Statistic	χ^2 -Statistic
Net of Market Return	3.1%	2.4%	4.0%	3.1%	3.6%	11.8***	8.35***	6.39***	3.87**

^aPre Event Trading Profitability = 44 transaction day Cumulative Net of Market Returns on trades in the pre event window.

^bPost Event Trading Profitability = 44 transaction day Cumulative Net of Market Returns on trades in the post event window.

^cBenchmark Trading Profitability = 44 transaction day Cumulative Net of Market Returns on trades in the benchmark window.

Pre event window includes **calendar** days $[-t-31, t-2]$ where t is the earnings announcement date.

Post event window includes **calendar** days $[t+1, t+30]$ where t is the earnings announcement date.

Benchmark window includes **calendar** days $[-t-61, t-32]$ where t is the earnings announcement date.

Significance levels: ***-1%; **-5%; *-10%

Table 3
Cumulative 44 (transaction) Day Net of Market Returns on Insider Trades
by Transaction Day Relative to Earnings Announcement Date

BENCHMARK TRADES				PRE EVENT TRADES				POST EVENT TRADES			
Day	Num	Return		Day	Num	Return		Day	Num	Return	
-43	69	0.05469	*	-22	542	0.04446	*	1	943	0.0442	*
-42	391	0.05149	*	-21	513	0.02755	*	2	1376	0.0497	*
-41	609	0.03135	*	-20	556	0.03991	*	3	1323	0.0455	*
-40	726	0.03563	*	-19	545	0.04401	*	4	1145	0.0383	*
-39	702	0.02926	*	-18	517	0.03455	*	5	1098	0.0392	*
-38	741	0.04295	*	-17	524	0.03142	*	6	1025	0.0317	*
-37	720	0.03014	*	-16	552	0.03275	*	7	1034	0.042	*
-36	760	0.03334	*	-15	485	0.02351	*	8	1012	0.0439	*
-35	734	0.04108	*	-14	498	0.02408	*	9	1024	0.0388	*
-34	726	0.0369	*	-13	464	0.02942	*	10	995	0.034	*
-33	702	0.04147	*	-12	517	0.02525	*	11	965	0.0396	*
-32	659	0.03971	*	-11	449	0.03234	*	12	899	0.0336	*
-31	644	0.03286	*	-10	440	0.01867	*	13	863	0.0360	*
-30	637	0.03505	*	-9	450	0.02295	*	14	828	0.0308	*
-29	667	0.03525	*	-8	409	0.01888	*	15	851	0.0459	*
-28	637	0.03246	*	-7	373	0.0231	*	16	837	0.0376	*
-27	564	0.03418	*	-6	377	0.02985	*	17	752	0.0466	*
-26	608	0.03738	*	-5	353	0.02572	*	18	762	0.0324	*
-25	620	0.02924	*	-4	365	0.05357	*	19	787	0.0391	*
-24	626	0.04118	*	-3	334	0.03282	*	20	702	0.0416	*
-23	549	0.03513	*	-2	315	0.04391	*	21	546	0.0359	*

- Day is the number of transaction days prior to (after) earnings announcement that the insider's transaction occurred on.
 - Num is the number of insider transactions that occurred on this "Day."
 - Return is 44 (transaction) day cumulative net of market return averaged across all trades on this "Day."
- *Significant at 5% level.

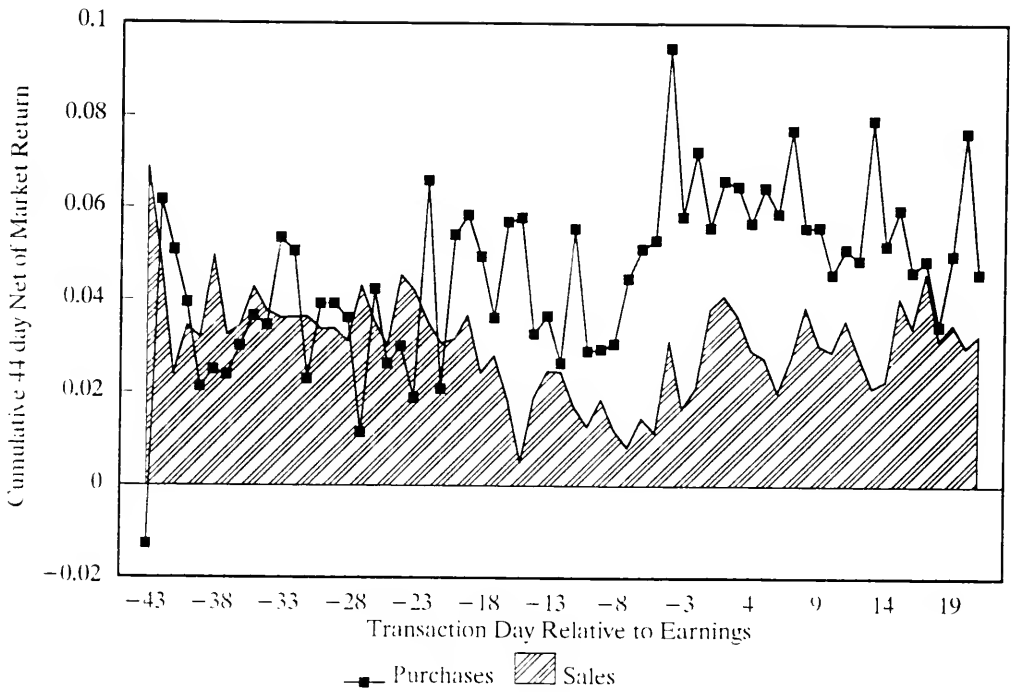


Figure 2

Average 44 Day Net of Market Returns
On Insider Purchases and Sales

4.3 Results on *The Private Information Hypothesis*

I examine the relation between postevent insider trading and various earnings information proxies under *The Private Information Hypothesis*. Specifically, I relate my index of postannouncement insider trading ($ISPI_{post}$) to measures of earnings surprise, earnings growth, the two day abnormal return to the earnings announcement and the market adjusted return over the 30 days prior to the announcement. My results, contained in Table 4, control for insiders' "typical" behavior by including the $ISPI$ from the benchmark period.

Consistent with the notion that insiders use their information advantage with respect to one quarter ahead earnings, I find that insiders increase their buying (selling) after current earnings announcements that ex post are lower (higher) than subsequent earnings. The coefficients on the variable comparing future earnings to current earnings in columns two and three (.214,-.18) are significant at the 1% level ($t=3.33,-2.79$).

I also find evidence consistent with insiders trading on the market's under- or overreaction to earnings announcements. The coefficient on the two day abnormal return is significant in each specification. Controlling for the effects of earnings surprise, earnings growth and earnings information that has already arrived, this coefficient measures the effect on insider trading of the variation in the two day abnormal return. This variation in the market's reaction might be thought of as a market over or under reaction to the earnings announcement. The negative coefficient in column one (-1.4, $t=-6.77$) indicates that if the two day abnormal return is "too positive" relative to the other earnings information, insiders increase their selling relative to total trading.

Table 4

Results From Regressing Postevent Insider Trading Index^a on Preevent and Benchmark Indices, Earnings Surprise, Earnings Growth, the Two-Day Abnormal Announcement Return, the Market Adjusted Return Over the 30 Calendar Days Prior to the Earnings Announcement.

Variable	Shares Index ^b	Buying Index ^c	Selling Index ^d	Trades Index ^e
Intercept	-.21*** (-20.2)	.287*** (51.46)	.550*** (88.49)	-.18*** (-18.0)
Two Day Abnormal Return ^f	-1.4*** (-6.77)	-.75*** (-7.08)	.684*** (6.537)	-1.4*** (-7.10)
Earnings Surprise ^g	-.41*** (-2.68)	-.24*** (-2.95)	.216*** (2.742)	-.384** (-2.54)
Earnings Growth ^h	.354*** (2.867)	.214*** (3.327)	-.18*** (-2.79)	.344*** (2.832)
Runup ⁱ	-1.5*** (-16.6)	-.82*** (-17.6)	.796*** (17.22)	-1.5*** (-17.0)
Preevent Insider Trading Index ^j	.340*** (17.99)	.249*** (14.82)	.171*** (13.02)	.352*** (18.55)
Benchmark Insider Trading Index ^k	.396*** (23.08)	.257*** (15.24)	.238*** (20.44)	.416*** (24.18)
N	7474	7474	7474	7474
F-Statistic	288***	174***	212***	310***
Adj-R ²	.1872	.1222	.1447	.1988

^aISPI_{post}

^bShares based measure of Postevent Insider Trading Index (ISPI_{post}).

^cNumber of shares bought relative to total shares transacted in (during post event period).

^dNumber of shares sold relative to total shares transacted in (during post event period).

^eTrades based measure of Postevent Insider Trading Index (ISPI_{post}).

^fTwo-day abnormal return to the earnings announcement.

^g(Actual Earnings - Median Analyst's Forecast)/Price_{t-2days}.

^h(Actual Earnings_{t+1} - Actual Earnings_t)/Price_{t-2days}.

ⁱStock's Cumulative Net of Market Return over the calendar window [t-31,t-2], where t is the earnings announcement date.

^jShares Index_{pre}, Buying Index_{pre}, Selling Index_{pre}, Trades Index_{pre}

^kShares Index_{bench}, Buying Index_{bench}, Selling Index_{bench}, Trades Index_{bench}

T-statistics in parentheses; Significance levels: ***-1%; **-5%; *-10%

I find evidence that insiders use their private information regarding forthcoming earnings to time their trades and achieve better transaction prices. Specifically, I find that positive news precedes insider sales and negative news precedes insider purchases. Postevent insider buying is decreasing in my measure of earnings surprise. The coefficient of $-.24$ (column two) is significant at the 1% level ($t=-2.95$). Similarly, postevent insider selling is increasing in earnings surprise (coefficient $=.216, t=2.74$), indicating that insiders sell more after more positive earnings shocks.

Additionally, postevent trading is decreasing in the 30 calendar day preannouncement market adjusted return (runup), which proxies for information regarding the forthcoming news that leaked early.¹ The interpretation of the coefficients on the runup variable mirrors the interpretation of the coefficients on the surprise variable. More positive earnings information leakage elicits more postevent selling.

The evidence that insiders wait and trade against the price reaction to earnings information leakage (the significant coefficients on the runup variables) is also consistent with evidence from the extant literature on insider trading. Specifically, Seyhun (1990) provides evidence consistent with insiders correctly identifying undervaluations (overvaluations) in their firm's stock, and purchasing (selling) shares at those times. My evidence is also consistent with this pattern.

¹Easton & Zmijewski [1989] interpret the 30-day runup variable in their study in much the same manner. Specifically, they argue that the negative correlation between their two-day abnormal earnings announcement return and their runup measure is consistent with a positive association between the stock return prior to the two-day window and the measurement error in unexpected earnings.

Finally, my evidence indicates that net insider buying (selling) tendencies in the benchmark and preevent periods are associated with net buying (selling) tendencies in the postevent period. The coefficient on the benchmark ISPI (.396 in column 1) is significantly positive, as is the coefficient on the preevent ISPI (.34 in column 1).

4.4 Analysis of the Types of Information that Preannouncement Trading is Based Upon

I examine the determinants of preannouncement insider trading by regressing my insider trading measures (for preannouncement trades) on measures of earnings surprise, earnings growth and the market adjusted return from the trade date through the earnings announcement (MAR). The results are contained in Table 5.

Controlling for earnings surprise and earnings growth, insider trading is increasing in the average market adjusted return from the trade date through the earnings announcement. The coefficient on MAR (.617 in the first specification) is significant at the 1% level ($t=3.88$). I also find that, controlling for earnings growth and MAR, insider trading is decreasing in earnings surprise. Taken together, this evidence suggests that insiders are trading profitably on earnings information not picked up by proxies for earnings forecast errors. For example, earnings surprise may be negative due to a one time charge but sales may be higher than expected, eliciting a positive market reaction. The evidence suggests that insiders are net buyers prior to this type of event. Finally, the negative coefficient on earnings surprise may be due in part to fears of sanctions on preevent trading. If insiders can point to the negative relation between their trading and the earnings surprise they may feel safer with respect to SEC sanctions.

Table 5

Results From Regressing Preevent Insider Trading Index^a on Benchmark Index, Earnings Surprise, Earnings Growth, and the Market Adjusted Return from the Trade Date through the Earnings Announcement Date

Variable	Shares Index ^b	Buying Index ^c	Selling Index ^d	Trades Index ^e
Intercept	-.09*** (-6.59)	.328*** (45.50)	.479*** (58.89)	.07*** (-5.70)
Earnings Surprise ^f	-.92*** (-3.31)	-.47*** (-3.23)	.464*** (3.241)	-.863*** (-3.15)
Earnings Growth ^g	-.014 (-.09)	.0198 (.25)	-.002 (-.03)	.0033 (.022)
Market Adjusted Return from trade date through announcement ^h	.617*** (3.88)	.335*** (4.00)	-.353*** (-4.316)	.646*** (4.13)
Benchmark Insider Trading Index ⁱ	.626*** (32.41)	.437*** (22.32)	.374*** (27.20)	.645*** (33.46)
N	4697	4697	4697	4697
F-Statistic	272***	133***	194***	290***
Adj-R ²	.1875	.1011	.1411	.1973

^aISPI_{pre}

^bShares based measure of Preevent Insider Trading Index (ISPI_{pre}).

^cNumber of shares bought relative to total shares transacted in (during pre event period).

^dNumber of shares sold relative to total shares transacted in (during pre event period).

^eTrades based measure of Preevent Insider Trading Index (ISPI_{pre}).

^f(Actual Earnings - Median Analyst's Forecast)/Price_{t-2days}.

^g(Actual Earnings_{t+1} - Actual Earnings_t)/Price_{t-2days}.

^hStock's Cumulative Net of Market Return from the transaction date **through** the earnings announcement date.

ⁱShares Index_{bench}, Buying Index_{bench}, Selling Index_{bench}, Trades Index_{bench}

T-statistics in parentheses; Significance levels: ***-1%; **-5%; *-10%

Prevent insider trading is not significantly related to earnings growth as measured by the difference between one quarter ahead earnings and current earnings. This is not terribly surprising since insiders can wait to trade on one quarter ahead earnings until just after current earnings are released, and they will likely be less concerned with SEC sanctions. I formally test this notion that insiders may be more concerned with SEC sanctions on preevent trading than on postevent trading in chapter 4.6.

4.5 Determinants of Benchmark Trading

The fact that I use benchmark trading as a control measure does not preclude the possibility that such trading is correlated with earnings information. Table 6 contains results from regressing $ISPI_{\text{bench}}$ on measures of earnings surprise, earnings growth and the market adjusted return from the trade date through the earnings announcement (MAR).

The results in Table 6 are very similar to those described in Table 5. Controlling for earnings surprise and earnings growth, benchmark trading is increasing in MAR ($t=3.64$ in column 1). Furthermore, benchmark trading is decreasing in earnings surprise ($t=-2.31$ in column 1) after controlling for earnings growth and MAR. These results suggest that insiders trade profitably on earnings information not picked up by forecast error proxies, as early as two months prior to the earnings announcement. Finally, benchmark trading does not appear to be correlated with my proxy for earnings growth.

Table 6

Results From Regressing Benchmark Period Insider Trading Index^a on Earnings Surprise, Earnings Growth, and the Market Adjusted Return from the Trade Date through the Earnings Announcement Date

Variable	Shares Index ^b	Buying Index ^c	Selling Index ^d	Trades Index ^e
Intercept	-.36*** (-31.8)	.319*** (55.98)	.681*** (119.6)	-.335*** (-29.62)
Earnings Surprise ^f	-.338** (-2.31)	-.169** (-2.31)	.169** (2.31)	-.251* (-1.7)
Earnings Growth ^g	.2028 (1.4)	.1014 (1.4)	-.1014 (-1.4)	.1897 (1.3)
Market Adjusted Return from trade date through announcement ^h	.382*** (3.644)	.191*** (3.644)	-.19*** (-3.64)	.386*** (3.710)
N	6469	6469	6469	6469
F-Statistic	6.23***	6.23***	6.23***	5.70***
Adj-R ²	.0024	.0024	.0024	.0022

^aISPI_{bench}

^bShares based measure of Benchmark Insider Trading Index (ISPI_{bench}).

^cNumber of shares bought relative to total shares transacted in (during pre event period).

^dNumber of shares sold relative to total shares transacted in (during pre event period).

^eTrades based measure of Benchmark Insider Trading Index (ISPI_{bench}).

^f(Actual Earnings - Median Analyst's Forecast)/Price_{t-2days}.

^g(Actual Earnings_{t+1} - Actual Earnings_t)/Price_{t-2days}.

^hStock's Cumulative Net of Market Return from the transaction date through the earnings announcement date.

T-statistics in parentheses; Significance levels: ***-1%; **-5%; *-10%

4.6 Results on the *Fear of Sanctions Hypothesis*

An implication of greater fears of sanctions on preevent trading (than on postevent trading) is that an insider's choice to trade before or after an earnings announcement will depend on the current regulatory regime (whether ITSFEA has been passed). Given that ITSFEA increased the penalties on illegal insider trading (see chapter 2), postevent trading should be higher and preevent trading should be lower (in the post Act environment), than would be expected in a world where fears of sanctions are equal on both types of trading. The intuition is as follows.

If insiders anticipate the likelihood and cost of sanctions to be the same whether trading occurs prior to or after earnings announcements, then the expected sanctions on either type of trading are equal and remain that way even after the Act is passed. The alternate case, in which sanctions are more likely on preevent trading, suggests that the expected costs of this type of trading are higher after ITSFEA than the expected costs of postevent trading. This should mitigate insiders' desires to trade prior to earnings announcements (relative to their desire to trade after earnings announcements).

I test this implication by relating insiders' trade timing to an indicator variable for the current regulatory regime (whether or not ITSFEA had been passed). Specifically, conditional on insider trading being observed either before or after an earnings announcement, the announcement is classified as a pre trading announcement if there was at least one episode of preannouncement trading, else the announcement is classified as a post trading only announcement. This classification is related to the current regulatory regime using a contingency table.

The results are contained in Table 7. I find evidence consistent with insiders fearing sanctions on preevent trading more than they do on postevent trading. In particular, there are more episodes of postevent trading after ITSFEA than would be expected if insiders fear sanctions equally on pre and postevent trading. Under the null hypothesis of no difference in fears of sanctions there are 1912 expected cases of postevent trading after ITSFEA; 2092 cases are observed. Furthermore, there are 1557 observed cases of preevent trading after ITSFEA; 1737 cases were expected under the null. The Chi-square statistic on the test of independence between trade timing choice and the current regulatory regime is 12.28, which is significant at the 1% level. The null hypothesis of independence is rejected.

Results not shown also indicate that the Act affected the willingness of insiders to trade during the benchmark period versus the postevent period. Using the methodology described above, I find that after ITSFEA, insiders increased their tendency to trade postevent (as opposed to during the benchmark period) more than we would expect if the Act had no effect. The measured Chi-square statistic of 3.87 is significant at the 5% level.

Table 7

Contingency Table Relating the Insider's Trade Timing
 (During the Pre or Postevent Period)^a
 to the Current Regulatory Regime
 (Before or After the ITSFEA)^b
(Insider Trading and Securities Fraud Enforcement Act)

Test of the *Fear of Sanctions Hypothesis*

	There Exists Post Trading and No Pre Trading	There Exists Pre Trading	Totals
Earnings Announcement Before ITSFEA	3437 -- Actual Cases (3617) - Expected Cases ^c	3465 -- Actual Cases (3285) - Expected Cases ^c	6902
Earnings Announcement After ITSFEA	2092 -- Actual Cases (1912) - Expected Cases ^c	1557 -- Actual Cases (1737) - Expected Cases ^c	3649
Totals	5529	5022	10,551

$$\chi^2(1) = 12.28***$$

Test of independence between choice of when to trade and current regulatory regime is rejected at better than the 1% level.

^aAll numbers are "conditional on trading" by at least one insider, during the appropriate period.

^bITSFEA was passed in November of 1988.

^cExpected cases are based on the assumption of independence between the insider's choice of when to trade and the current regulatory regime.

Significance Levels: ***-1%

I examine whether the results in Table 7 are driven by an increase in buying or selling behavior in the postevent period relative to the preevent period. Specifically, I calculate the difference between the number of shares bought (sold) in the post earnings announcement window and the number of shares bought (sold) in the pre earnings announcement window. This number is scaled by the total number of shares bought (sold) in both windows. The resulting Post Minus Pre Buying (Selling) Index is then related to an indicator variable for the current regulatory regime (before or after ITSFEA), and a control variable for the total volume of trading in the post earnings announcement window relative to the total volume of trading in the pre earnings announcement window.

The results are contained in Table 8. I find evidence consistent with an increase in selling in the post earnings announcement window relative to the pre earnings announcement window, following the passage of ITSFEA. In the selling regressions (with and without the relative volume control), the coefficients on the indicator variable for the current regulatory regime, .052 and .044 respectively, are positive and significant (t -statistics = 2.32 and 1.89). In other words, insiders increase their selling behavior in the postevent period relative to the preevent period, following the passage of ITSFEA. These results do not hold for the Post Minus Pre Buying Index. The coefficients on the regulatory regime indicator variable (.021,.017) are positive but statistically insignificant, t = .766 and .627). Insiders did not change their postevent buying relative to preevent buying, following the passage of ITSFEA.

Table 8

Results From Regressing "Post Minus Pre" Buying and Selling Indices on
an Indicator Variable for the Current Regulatory Regime,
and the Relative Volume of Total (Insider and Outsider) Trading in the
Post versus Pre Periods.

Tests of the *Fear of Sanctions Hypothesis*

Variable	Shares	Shares	Shares	Shares
	Post Minus Pre Buying Index ^a	Post Minus Pre Buying Index	Post Minus Pre Selling Index ^b	Post Minus Pre Selling Index
Intercept	.237*** (13.65)	.143*** (6.43)	.303*** (23.62)	.177*** (9.588)
Post - ITSFEA	.021 (.766)	.017 (.627)	.052** (2.32)	.044* (1.89)
Relative Volume ^c	-----	.064*** (6.082)	-----	.095*** (9.479)
N	4577	4474	6739	6520
F-Statistic	.587	18.9***	4.98**	47.57***
Adj-R ²	.0001	.0080	.0006	.0141

^aPost Minus Pre = $\frac{(\# \text{ of shares bought in post period} - \# \text{ of shares bought in pre period})}{(\# \text{ of shares bought in post period} + \# \text{ of shares bought in pre period})}$

^bPost Minus Pre = $\frac{(\# \text{ of shares sold in post period} - \# \text{ of shares sold in pre period})}{(\# \text{ of shares sold in post period} + \# \text{ of shares sold in pre period})}$

^cRelative Volume = $\frac{\text{Total Volume of Shares Traded in Post Period}}{\text{Total Volume of Shares Traded in Pre Period}}$ (outsiders + insiders)

T-statistics in parentheses

Significance levels: *** -1%; **-.5%; *-10%

Given the evidence that insiders reacted to ITSFEA by reducing their preevent trading activity in favor of trading in the postevent period, the question of whether they also changed the type of information they trade upon arises. For example, the negative correlation between preevent trading and earnings surprise may be driven by trading that occurred after the Act. I examine whether the types of information that insiders trade on prior to earnings announcements changed after the Act in Table 9.^{2,3}

The first column of Table 9 indicates that insider buying was more likely to precede negative earnings surprises after the Act. The coefficient on the interactive surprise variable (which takes on the value of surprise post Act, 0 otherwise) is -1.23 with an associated t-statistic of -4.44. Furthermore, the coefficient on surprise (not interacted) is -.0001 ($t=-.51$). Taken together, this evidence is consistent with insiders changing their preevent buying behavior after the Act in such a way that is likely to limit SEC sanctions. In particular, insiders who executed preevent buys following the Act could simply point to the observed average negative earnings surprise, should their trading be questioned.

At the same time, this change in preevent buying behavior did not affect the profitability of these trades. Column 3 of Table 9 indicates that insider buying is increasing in runup both before and after the Act. The coefficient on runup is .403 ($t=4.16$), while the coefficient on runup interacted with POSTITSFEA (=1 after the Act, 0 otherwise) is insignificant. Column 5 indicates that the profitable information which

²Results not shown indicate that there was no change in the types of information that insiders trade on in the post event period, following the Act.

³For ease of presentation I do not include my measure of earnings growth in the analysis. My results do not change upon inclusion of earnings growth as a regressor.

Table 9
Results From Regressing Pre Announcement Insider Trading^a on Measures of Earnings Surprise, Earnings Growth,
the Market Adjusted Return from the Trade Date through the Earnings Announcement Date and Interactive Variables.

Variable	Buy Index ^b	Sell Index ^c	Buy Index	Sell Index	Buy Index	Sell Index
Intercept	.327*** (45.92)	.478*** (59.22)	.332*** (47.50)	.472*** (59.85)	.328*** (46.03)	.478*** (59.28)
Earnings Surprise ^d	-.0001 (-.51)	.0002 (1.07)	-----	-----	-.0001 (-.56)	.0002 (1.13)
MAR ^e	-----	-----	.403*** (4.163)	-.397*** (-4.188)	.353*** (3.502)	-.368*** (-3.739)
Earnings Surprise * POSTTSFEA ^f	-1.23*** (-4.437)	.975*** (3.575)	-----	-----	-1.25*** (-4.486)	.990*** (3.635)
MAR * POSTTSFEA	-----	-----	-.157 (-.91)	.136 (.81)	-.091 (-.52)	.082 (.48)
Benchmark Insider Trading Index ^g	.441*** (22.78)	.374*** (27.45)	.446*** (23.65)	.376*** (28.19)	.438*** (22.62)	.372*** (27.38)
N	4791	4791	5000	5000	4789	4789
F-Statistic	181***	259***	195***	274***	112***	160***
Adjusted R ²	.1011	.1392	.1045	.1408	.1036	.1421

^aTSI_{pre}

^bNumber of shares bought relative to total number of shares transacted in (during pre event period).

^cNumber of shares sold relative to total number of shares transacted in (during pre event period).

^dEarnings Surprise = (Actual Earnings - Median Analyst's Forecast) / Price_{3days}

^eMAR = Net of Market Return on Stock from Insider Trading Date Through Earnings Announcement Date.

^fPOSTTSFEA = 1 if Earnings Announcement After November 1988, = 0 else.

^gBuying Index_{bench}, Selling Index_{bench} (respectively).

T-statistics in parentheses. Significance levels: ***-1%; **-5%; *-10%

insiders bought on was uncorrelated with the measured earnings surprise. Controlling for earnings surprise, preevent buying is increasing in runup. This is consistent with insiders buying before earnings announcements on positive information that is not captured by coarse measures like earnings forecast errors.

Table 10 further examines the profitability of trades before and after ITSFEA. The results indicate that insider profits on sales transactions declined after the Act, consistent with the notion that insiders became more concerned with SEC sanctions after ITSFEA. Interestingly, the profitability of insider purchases increased after the passage of ITSFEA. This appears to contradict the notion that insiders became more concerned with sanctions following ITSFEA. However, insiders may simply believe that sanctions are less likely to be imposed on their purchases. Future research can address this issue.

Table 10
 Profitability of Trading
 Before and After ITSFEA (November 1988)
(Insider Trading and Securities Fraud Enforcement Act)

	Before ITSFEA		After ITSFEA		Before vs After	
	Mean	Median	Mean	Median	Diff. in Means	Diff. in Medians
All Trades	3.51%	2.84%	4.06%	3.04%	3.75***	2.47
Pre Event Trades	2.95%	2.32%	3.60%	2.54%	1.50	.685
Post Event Trades	3.76%	2.92%	4.46%	3.36%	.92	4.13**
Pre Event Buys	3.98%	2.75%	6.13%	3.95%	2.40**	5.92**
Post Event Buys	5.14%	3.96%	6.81%	4.70%	3.11***	2.10
Pre Event Sells	2.40%	1.97%	1.47%	1.26%	4.55***	3.53*
Post Event Sells	3.25%	2.60%	3.16%	2.56%	3.88***	.03

Profitability is measured as the 41 transaction day Cumulative Net of Market Return (described in Chapter 3.2).

Pre event window includes **calendar** days $[t-31, t-2]$ where t is the earnings announcement date.

Post event window includes **calendar** days $[t+1, t+30]$ where t is the earnings announcement date.

Significance levels: ***-1%; **-5%; *-10%.

4.7 Firm Policies on Insider Trading and Fears of Sanctions Results

It is possible that the firms in my sample instituted substantially restrictive policies on insider trading following the passage of ITSFEA. If this is the case, my conclusion that increased federal government scrutiny and penalties directly affected insiders' behavior may be premature. In particular, the observed switch in insider trading behavior from more preevent trading to more postevent trading may have been caused by more restrictive firm policies that arose in response to the Act.

I examine the possibility that changes in firm policies led to the observed change in insider behavior by analyzing firm specific policies on insider trading both before and after ITSFEA. For a sample of 25 firms⁴ (16 with at least one episode of preevent insider trading, nine (9) with no episodes of preevent trading) I collected information on their policies regarding preevent trading and when these policies were put into place. Each firm has a policy that at least discourages preevent trading and eight (8) firms strictly forbid it.

However, of these 25 firms, only three (3) of them put these policies into place after ITSFEA (12%). If we assume that my sample of respondents is representative, most firms (88%) made no change in their policies regarding insider trading following the Act. This suggests that the Act, and not firm policy changes in response to the Act, caused the observed change in insider behavior.

⁴50 firms were contacted. Only 25 responded despite follow-up calls on my part.

4.8 Robustness of Results when Trading During The "Crash" of 1987 is Ignored

It is possible that trading immediately following the "Crash" of October 1987 was more information based than other insider trading. Specifically, Seyhun [1990] provides evidence consistent with insiders being able to identify under and over valuations in their firm's stock and trade profitably on this information. I test *The Private Information Hypothesis* for the subsample of insider trades that did not occur in the month of October 1987 in order to assess the robustness of my *Private Information* results.

Table 11 presents the results from testing *The Private Information Hypothesis* using trades that did not occur during October 1987. The results indicate that trades during the "Crash" month are not driving my results. Insider trading is still increasing in one quarter ahead earnings. The coefficient in specification one (.31) is significant at the 5% level ($t=2.48$). Also, postevent trading continues to be negatively related to earnings information that has recently arrived. The coefficients on the 30-day preannouncement market adjusted return are all significant. Finally, postevent insider trading is decreasing in the proxy for market overreaction (underreaction) to negative (positive) earnings news ($t=-7.74$).

Table 11

Results From Regressing Postevent Insider Trading Index^a on Preevent and Benchmark Indices, Earnings Surprise, Earnings Growth, the Two-Day Abnormal Announcement Return, the Market Adjusted Return Over the 30 Calendar Days Prior to the Earnings Announcement.
Without October 1987 Trades

Variable	Shares Index ^b	Buying Index ^c	Selling Index ^d	Trades Index ^e
Intercept	-.238*** (-23.02)	.270*** (48.17)	.569*** (90.23)	-.212*** (-20.89)
Two Day Abnormal Return ^f	-1.7*** (-7.74)	-.93*** (-8.04)	.86*** (7.51)	-1.7*** (-7.94)
Earnings Surprise ^g	-.46*** (-2.87)	-.26*** (-3.11)	.24*** (2.97)	-.43*** (-2.74)
Earnings Growth ^h	.309** (2.48)	.19*** (2.94)	-.151** (-2.36)	.311** (2.53)
Runup ⁱ	-1.5*** (-16.5)	-.81*** (-17.0)	.786*** (16.73)	-1.5*** (-16.5)
Preevent Insider Trading Index ^j	.316*** (16.49)	.236*** (13.62)	.158*** (11.96)	.328*** (17.04)
Benchmark Insider Trading Index ^k	.403*** (23.35)	.272*** (16.03)	.237*** (20.19)	.424*** (24.47)
N	7142	7142	7142	7142
F-Statistic	277***	173***	201***	299***
Adj-R ²	.1883	.1262	.1441	.2003

^aISPI_{post}

^bShares based measure of Postevent Insider Trading Index (ISPI_{post}).

^cNumber of shares bought relative to total shares transacted in (during post event period).

^dNumber of shares sold relative to total shares transacted in (during post event period).

^eTrades based measure of Postevent Insider Trading Index (ISPI_{post}).

^fTwo-day abnormal return to the earnings announcement.

^g(Actual Earnings - Median Analyst's Forecast)/Price_{t-2days}.

^h(Actual Earnings_{t+1} - Actual Earnings_t)/Price_{t-2days}.

ⁱStock's Cumulative Net of Market Return over the calendar window [t-31,t-2], where t is the earnings announcement date.

^jShares Index_{pre}, Buying Index_{pre}, Selling Index_{pre}, Trades Index_{pre}.

^kShares Index_{bench}, Buying Index_{bench}, Selling Index_{bench}, Trades Index_{bench}.

T-statistics in parentheses; Significance levels: ***-1%; **-.5%; *-.10%

4.9 Private Information Results and Fiscal Year End versus Interim Quarter Effects

It is possible that insiders have a differential information advantage around interim quarter earnings announcements than around fiscal year end reports. Since interim quarter results are generally unaudited, insiders may be more sure of their information advantage around these than around audited earnings announcements. On the other hand, firms generally publish fiscal year end results with a longer lag following the end of the measurement period than interim quarter results. This could provide insiders with an opportunity to improve their information advantage over outsiders for these announcements. The question of whether insiders possess a greater information advantage and trade on it for interim quarter or fiscal year end earnings is an empirical one.

Table 12 presents results on *The Private Information Hypothesis* controlling for fiscal year end versus interim quarter effects. The results indicate that there is some difference in the correlation between postevent trading and information proxies for fiscal year end versus interim quarter announcements. Specifically, the correlation between postevent insider trading and both earnings growth and runup is stronger for fiscal year-end earnings announcements than for interim quarter announcements. The T-statistics of the coefficients on the interactive growth and runup variables (which take on the value of zero for interim quarter announcements while retaining their observed value for fiscal year-end announcements) are both significant. This result is consistent with insiders possessing a greater information advantage with respect to fiscal year end earnings announcements that they actively trade upon.

Table 12

Results From Regressing Postevent Insider Trading Index ($ISPI_{post}$) on Preevent and Benchmark Indices ($ISPI_{pre}$ & $ISPI_{bench}$), Earnings Surprise ($Surp$)^a, Earnings Growth (G)^b, the Two-Day Abnormal Announcement Return ($Pe2day$)^c, the Market Adjusted Return Over the 30 Calendar Days Prior to the Earnings Announcement ($Runup$)^d, and FY-end Interactives of these Variables (=measured value for FY-end Earnings Announcements; 0 otherwise). (FY = 1 for FY-end Earnings Announcements, 0 else)

$$\text{Model: } ISPI_{post} = \alpha_0 + \alpha_1 * ISPI_{pre} + \alpha_2 * ISPI_{bench} + \alpha_3 * Pe2day + \alpha_4 * Surp + \alpha_5 * G + \alpha_6 * Runup + \alpha_7 * ISPI_{pre} * FY + \alpha_8 * ISPI_{bench} * FY + \alpha_9 * Pe2day * FY + \alpha_{10} * Surp * FY + \alpha_{11} * G * FY + \alpha_{12} * Runup * FY$$

	α_0	α_1	α_2	α_3	α_4	α_5	α_6	α_7	α_8	α_9	α_{10}	α_{11}	α_{12}
Coeff	-.21*	.341*	.411*	-1.3*	-.35*	.279*	-1.5*	.03	-.03	-.48	-.16	1.2*	-.7*
T-Stat	(-21)	(16)	(22)	(-6.1)	(-2.1)	(2.2)	(-15)	(.57)	(-.57)	(-.74)	(-.37)	(2.2)	(-2.2)

^a(Actual Earnings - Median Analyst's Forecast) $Price_{t-2day}$

^b(Actual Earnings_{t-1} - Actual Earnings_t) $Price_{t-2day}$

^cTwo-day abnormal return to the earnings announcement.

^dStock's Cumulative Net of Market Return over the **calendar** window $[t-31, t-2]$ where t is the earnings announcement date.

* Significant at the 5% level or better.

CHAPTER 5 CONCLUSION

The literature on insider trading contains numerous examples of insiders trading prior to the release of private information. However, few studies have examined the importance of postevent insider trading. I address this gap using a large sample of earnings announcements. I find evidence that postevent insider trading is much more likely than preevent and/or benchmark period insider trading. Postevent insider trading is also more voluminous than preevent and benchmark period insider trading. Finally, postevent insider trading is significantly more profitable than both preevent and benchmark period insider trading.

Postannouncement insider trading appears to be based on insiders' private information regarding earnings growth. Specifically, larger (smaller) one quarter ahead earnings elicit more buying (selling) in the postannouncement period. Insiders also appear to wait until earnings information is revealed to the market and then trade against the market's reaction. In particular, insiders sell more and buy less following positive runups in the stock price (prior to earnings announcements) and following positive earnings surprises. Finally, insider trading appears to be correlated with market overreactions (underreactions) to negative (positive) earnings news.

I find evidence that insiders fear sanctions less on postevent trading than on other period trading by examining the behavior of insiders around the passage of ITSFEA (*The*

Insider Trading and Securities Fraud Enforcement Act). Specifically, after ITSFEA insiders increase their postevent trading and decrease their preevent and benchmark period trading relative to what we would expect if they are equally concerned with sanctions on all three types of trading. Insiders further responded to the Act by altering their preevent buying behavior. Specifically, insiders were more likely to buy before negative earnings surprises following the passage of ITSFEA than before. Finally, insiders earn significantly smaller profits on their sales consummated after ITSFEA.

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BIOGRAPHICAL SKETCH

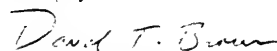
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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